

DRAFT EVALUATION REPORT
Russell Hinton Company
Application #14368 - Plant #17693 (Site #B7693)
450 Shotwell Street
San Francisco, CA 94110

I. BACKGROUND

Russell Hinton is a commercial painting contractor. A majority of their jobs are done in the field and a portion of the painting is done in the shop, where metal and wood furniture is painted. Russell Hinton is applying for an Authority to Construct/Permit to Operate for the following activity:

S-1 Metal and Wood Furniture Coating Operation

This application is evaluated at a permitted level of 300 gallons of paint, 75 gallons of lacquer thinner and 75 gallons of acetone. Painting and clean up occur approximately 1 hour per day, 4 days per week, and 48 weeks per year.

II. EMISSION CALCULATIONS

For precursor organic compound (POC) emissions from paint, this application was evaluated assuming all of the paint was for wood coating since it has the highest potential. For non-precursor organic compound (NPOC) emissions from paint, this application was evaluated assuming all of the paint was for metal coating since it has the highest potential.

Emissions from Paint

Annual usage = 300 gallons

$$\left(\frac{300 \text{ gallons}}{\text{year}} \right) * \left(\frac{4.6 \text{ pounds}}{\text{gallon}} \right) * \left(\frac{\text{week}}{4 \text{ day}} \right) * \left(\frac{\text{year}}{48 \text{ week}} \right) = \frac{7.2 \text{ pounds of POC}}{\text{day}} = \frac{0.7 \text{ tons}}{\text{year}}$$

$$\left(\frac{300 \text{ gallons}}{\text{year}} \right) * \left(\frac{6.6 \text{ pounds}}{\text{gallon}} \right) * 60\% * \left(\frac{\text{week}}{4 \text{ day}} \right) * \left(\frac{\text{year}}{48 \text{ week}} \right) = \frac{6.2 \text{ pounds of NPOC}}{\text{day}} = \frac{0.6 \text{ tons}}{\text{year}}$$

Emissions from Lacquer Thinner

Density = 7.0 pounds/gallon

Annual usage = 75 gallons

25% is acetone (NPOC)

$$\left(\frac{75 \text{ gallons}}{\text{year}} \right) * \left(\frac{7 \text{ pounds}}{\text{gallon}} \right) * \left(\frac{\text{week}}{4 \text{ day}} \right) * \left(\frac{\text{year}}{48 \text{ week}} \right) = \frac{2.7 \text{ pounds of POC}}{\text{day}} = \frac{0.3 \text{ tons}}{\text{year}}$$

$$\left(\frac{75 \text{ gallons}}{\text{year}} \right) * \left(\frac{6.6 \text{ pounds}}{\text{gallon}} \right) * 25\% * \left(\frac{\text{week}}{4 \text{ day}} \right) * \left(\frac{\text{year}}{48 \text{ week}} \right) = \frac{0.6 \text{ pounds of NPOC}}{\text{day}} = \frac{0.06 \text{ tons}}{\text{year}}$$

Emissions from Acetone (Clean-up)

Annual usage = 75 gallons

$$\left(\frac{75 \text{ gallons}}{\text{year}} \right) * \left(\frac{6.6 \text{ pounds}}{\text{gallon}} \right) * \left(\frac{\text{week}}{4 \text{ day}} \right) * \left(\frac{\text{year}}{48 \text{ week}} \right) = \frac{2.6 \text{ pounds of NPOC}}{\text{day}} = \frac{0.2 \text{ tons}}{\text{year}}$$

III. PLANT CUMULATIVE INCREASE (since 4/5/91)

The cumulative increase of POC and NPOC emissions will be approximately 1.0 and 0.9 tons per year, respectively.

IV. TOXIC SCREENING ANALYSIS

Chemical	Paint, highest %	Lacquer thinner, highest %	Permitted emissions, lb/year	Emissions, lb/hr	Trigger, lb/hr	Below hour trigger?	Trigger, lb/yr	Below year trigger?
toluene	2.5%	n/a	35	0.7	82	yes	39,000	yes
xylene	2.5%	25%	210	4.4	49	yes	58,000	yes
methyl ethyl ketone	2.5%	n/a	35	0.7	29	yes	39,000	yes
ethylene glycol butyl ether	2.5%	2.5%	52	1.1	31	yes	770	yes
isopropyl alcohol	0.5%	25%	182	3.8	71	yes	270,000	yes
ethyl benzene	0.5%	n/a	7	n/a	n/a	yes	77,000	yes

Toxic emissions from paint assume all usage is for metal furniture, which contain the toxic compounds. Hourly emissions assume four shifts that are normally spread over the week is coated in one day. Emissions are below the triggers for a risk screen.

V. BEST AVAILABLE CONTROL TECHNOLOGY

BACT may be triggered based on emissions per highest day. Using EPA's Con-Co\$t spreadsheet for thermal oxidizers and the cost index, the control equipment would cost approximately \$95,540. 1.0 tons of POC emissions per year would need to be controlled, which equates to \$100,000 per ton of POC reduced. This is greater than the BACT cost-effectiveness level of \$17,500 per ton. Hence, BACT1 is not cost-effective. The owner/operator uses complying materials. As a result, the applicant meets BACT2.

VI. OFFSETS

Offsets are not required since the POC emissions are less than 10 tons per year.

VII. STATEMENT OF COMPLIANCE

For this operation, Regulation 8, Rule 14 (Surface Preparation and Surface Coating of Large Appliances and Metal Furniture) and Regulation 8, Rule 32 (Wood Products Coating) apply. The owner/operator is expected to meet the Volatile Organic Compound limits of Section 8-14-302 and Section 8-32-303. The owner/operator will use HVLP spray equipment to comply with Section 8-14-304 and Section 8-32-301. The owner/operator is expected to comply with requirements for solvent evaporative loss minimization in Section 320 of both rules and the surface preparation requirement in Section 8-14-321. The owner/operator is expected to comply with the recordkeeping requirements in Section 501 of both rules and Permit Condition #23381 (outlined in Section VIII).

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook Chapter 5.1. This project is considered to be ministerial and therefore is not subject to CEQA review.

This project is within 1,000 feet from the nearest public school and emits toxic emissions. Public notification is required pursuant to Regulation 2-1-412. The schools are O'Connell High School and St. Charles School.

PSD, NSPS, and NESHAPS are not triggered.

VIII. CONDITIONS

In addition to regulatory requirements of Regulation 8, Rule 14 and Regulation 8, Rule 32, the owner/operator shall comply with the following Permit Conditions for Source 1.

1. The owner/operator shall not exceed the following limits, in any consecutive 12-month period:

Paint	300 gallons
Acetone	75 gallons
Lacquer thinner (Cleanup)	75 gallons

Lacquer thinner is not allowed for metal cleanup.
[Basis: Cumulative increase, toxic risk screen]

2. The owner/operator shall maintain records in accordance with Regulation 8, Rule 14, Section 501 and Regulation 8, Rule 32, Section 501 and total daily material usage on a monthly basis in the categories specified in Part 1 above. Monthly records shall be totaled for every rolling 12-month period in the categories specified in Part 1 above. [Basis: Recordkeeping]

IX. RECOMMENDATION

I recommend the Authority to Construct be waived and a Permit to Operate be issued to Russell Hinton Company for the following activity:

S-1 Metal and Wood Furniture Coating Operation

Fred Tanaka
Senior Air Quality Engineer
Engineering Division

Date: 1/8/07